

# SERVICE MANUAL

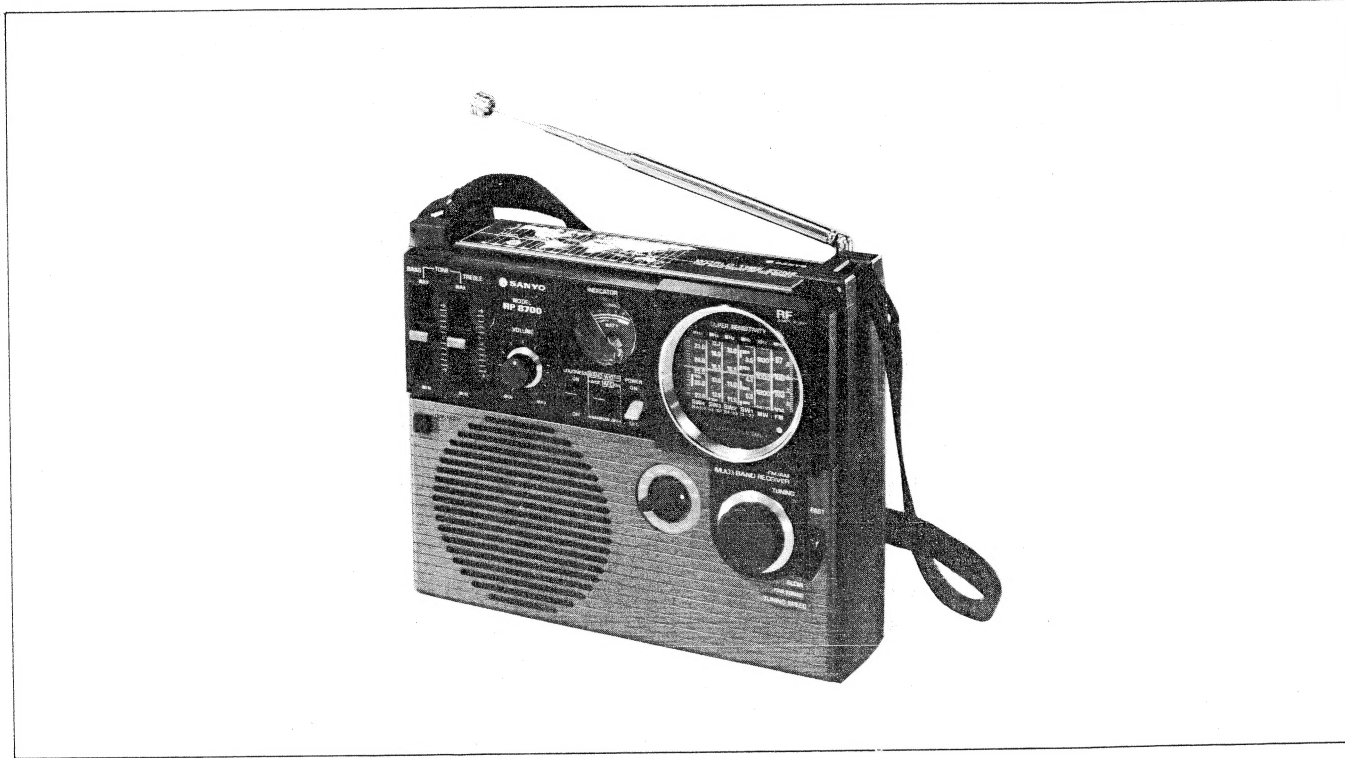


## PORTABLE RADIO

RP8700<sub>SS/AS</sub>  
(REVISED)

### MARKET IDENTIFICATION BY MODEL NUMBER SUFFIX

RP8700SS: Model for general market  
RP8700AS: Model for Australian market



### SPECIFICATIONS

Frequency Ranges:	MW	510 – 1605 kHz (505 – 1650 kHz)			D301	MV11T	Stabilizer
	SW1	2.3 – 7.3 MHz (2.2 – 7.6 MHz)			D302	DS442	Meter
	SW2	9.5 – 12.0 MHz (9.4 – 12.2 MHz)			D304	1S188AM	AM Detector
	SW3	15.1 – 17.9 MHz (15.0 – 18.2 MHz)			D305	MA26W	Stabilizer
	SW4	21.4 – 28.0 MHz (21.2 – 28.5 MHz)			D306	1S188FM	FM Discriminator
		FM	87.5 – 108 MHz (87.0 – 109.0 MHz)			D307	1S188FM
Intermediate Frequency:	AM	455 kHz			D308	YZ047	Regulator
	FM	10.7 MHz			D701	DS132	Rectifier
ICs:	IC701	LA4100K	Power Amp.	Sensitivity (for 50mW output):	D702	DS131	Rectifier
	IC702	LA4100K	Power Amp.		MW	33μV/m	
Transistors:	Q101	2SC930E	FM RF Amp.		SW1	10μV	
	Q102	2SC930D	FM Converter		SW2	4μV	
	Q103	2SC929D	AM Mixer		SW3	4μV	
	Q301	2SC930E	FM IF Amp.		FM	4μV	
	Q302	2SC930E	FM/AM IF Amp.	Power Output:	SW4	4μV	
	Q303	2SC930E	FM/AM IF Amp.		Maximum	2000mW	
	Q304	2SC930D	FM/AM IF Amp.	Undistorted	1600mW		
	Q305	2SC930D	FM IF Amp.	Power Source:	DC:	6.0V for 1.5V "D" Size x 4	
	Q306	2SC536G	Meter		AS:	AC; 240V 50Hz 5W	
	Q701	2SC536G	AF Amp.		SS:	120/200/240V 50/60Hz 5W	
	Q104	2SC929D	AM Oscillator	Speaker:		12cm Permanent Dynamic Speaker 8 ohm	
Diodes:	D101	DS442	FM Limitter	Dimensions:		259(W) x 212(H) x 89(D)mm	
	D102	1S553	FM AFC		Weight		
	D105	1S188AM	SW1 Limiter	(without batteries):	2 Kg (Approx.)		
	D104	DS442					

## ALIGNMENT PROCEDURES

### GENERAL ALIGNMENT CONDITIONS

1. The position of volume control is at maximum position.
2. Signal input must be kept as low as possible to avoid overload.
3. Use an output meter of the highest possible sensitivity.
4. Standard modulation is 400 Hz at 30% amplitude (for AM) and 22.5 kHz deviation (for FM).

#### MW BAND — Band selector switch in MW position

Step	Connection of Signal Gen.	Input Signal Frequency	Dial Setting of Radio	Connection of Output Meter	Adjust	Remarks
1	Loop Antenna	455 kHz	Lowest End	Across Speaker	IFT T304, 305	Adjust for Maximum
2	Same	505 kHz	Lowest End	Same	Osc. Coil L115	Same
3	Same	1650 kHz	Highest End	Same	Osc. Trim. CT-3	Same
4	Same	600 kHz	600 kHz	Same	Ant. Coil L110-1	Same
5	Same	1400 kHz	1400 kHz	Same	Ant. Trim. CT-4	Same

Repeat steps 1 thru 5 to obtain maximum sensitivity.

#### FM BAND — Band selector switch in FM position

Step	Connection of Signal Gen.	Input Signal Frequency	Dial Setting of Radio	Connection of Meter or Oscilloscope	Adjust	Remarks
1	Connect Sweep Marker Generator to VC ANT., Earth	10.7 MHz	Lowest End	Connect scope input cable thru network to TP4, Earth	IFT, T301, 302	Adjust for Maximum sensitivity with symmetrical curve
2	Same	10.7 MHz	Lowest End	Connect scope input cable thru network to R338, Earth	IFT T303	Adjust for symmetrical "S" curve
3	Connect Signal Generator to TP2, 3	87.0 MHz	Lowest End	Connect V.T.V.M. across speaker	Osc. Coil L104	Adjust for Maximum
4	Same	109.0 MHz	Highest End	Same	Osc. Trim. CT-2	Same
5	Same	90 MHz	90 MHz	Same	RF Coil L101, 102	Same
6	Same	108 MHz	108 MHz	Same	RF Trim. CT-1	Same

Repeat steps 1 thru 6 to obtain maximum sensitivity.

#### SW1 BAND — Band selector switch in SW1 position

Step	Connection of Signal Gen.	Input Signal Frequency	Dial Setting of Radio	Connection of Output Meter	Adjust	Remarks
1	Dummy Antenna	2.2 MHz	Lowest End	Across Speaker	Osc. Coil L116	Adjust for Maximum
2	Same	7.6 MHz	Highest End	Same	Osc. Trim. CT-9	Same
3	Same	2.5 MHz	2.5 MHz	Same	Ant. Coil L110-2	Same
4	Same	6.8 MHz	6.8 MHz	Same	Ant. Trim. CT-5	Same

Repeat steps 1 thru 4 to obtain maximum sensitivity.

#### SW2 BAND — Band selector switch in SW2 position

Step	Connection of Signal Gen.	Input Signal Frequency	Dial Setting of Radio	Connection of Output Meter	Adjust	Remarks
5	Dummy Antenna	9.4 MHz	Lowest End	Same	Osc. Coil L117	Adjust for Maximum
6	Same	12.2 MHz	Highest End	Same	Osc. Trim. CT-10	Same
7	Same	9.6 MHz	9.6 MHz	Same	Ant. Coi. L112	Same
8	Same	11.8 MHz	11.8 MHz	Same	Ant. Trim. CT-6	Same

Repeat steps 5 thru 8 to obtain maximum sensitivity.

#### SW3 BAND — Band selector switch in SW3 position

Step	Connection of Signal Gen.	Input Signal Frequency	Dial Setting of Radio	Connection of Output Meter	Adjust	Remarks
1	Dummy Antenna	15.0 MHz	Lowest End	Across Speaker	Osc. Coil L119	Adjust for Maximum
2	Same	18.2 MHz	Highest End	Same	Osc. Trim. CT-11	Same
3	Same	15.3 MHz	15.3 MHz	Same	Ant. Coil L113	Same
4	Same	17.8 MHz	17.8 MHz	Same	Ant. Trim. CT-7	Same

Repeat steps 1 thru 5 to obtain maximum sensitivity.

#### SW4 BAND — Band selector switch in SW4 position

Step	Connection of Signal Gen.	Input Signal Frequency	Dial Setting of Radio	Connection of Output Meter	Adjust	Remarks
5	Dummy Antenna	21.2 MHz	Lowest End	Same	Osc. Coil L122	Adjust for Maximum
6	Same	28.5 MHz	Highest End	Same	Osc. Trim. CT-12	Same
7	Same	21.6 MHz	21.6 MHz	Same	Ant. Coil L114	Same
8	Same	26.8 MHz	26.8 MHz	Same	Ant. Trim. CT-8	Same

Repeat steps 5 thru 8 to obtain maximum sensitivity.

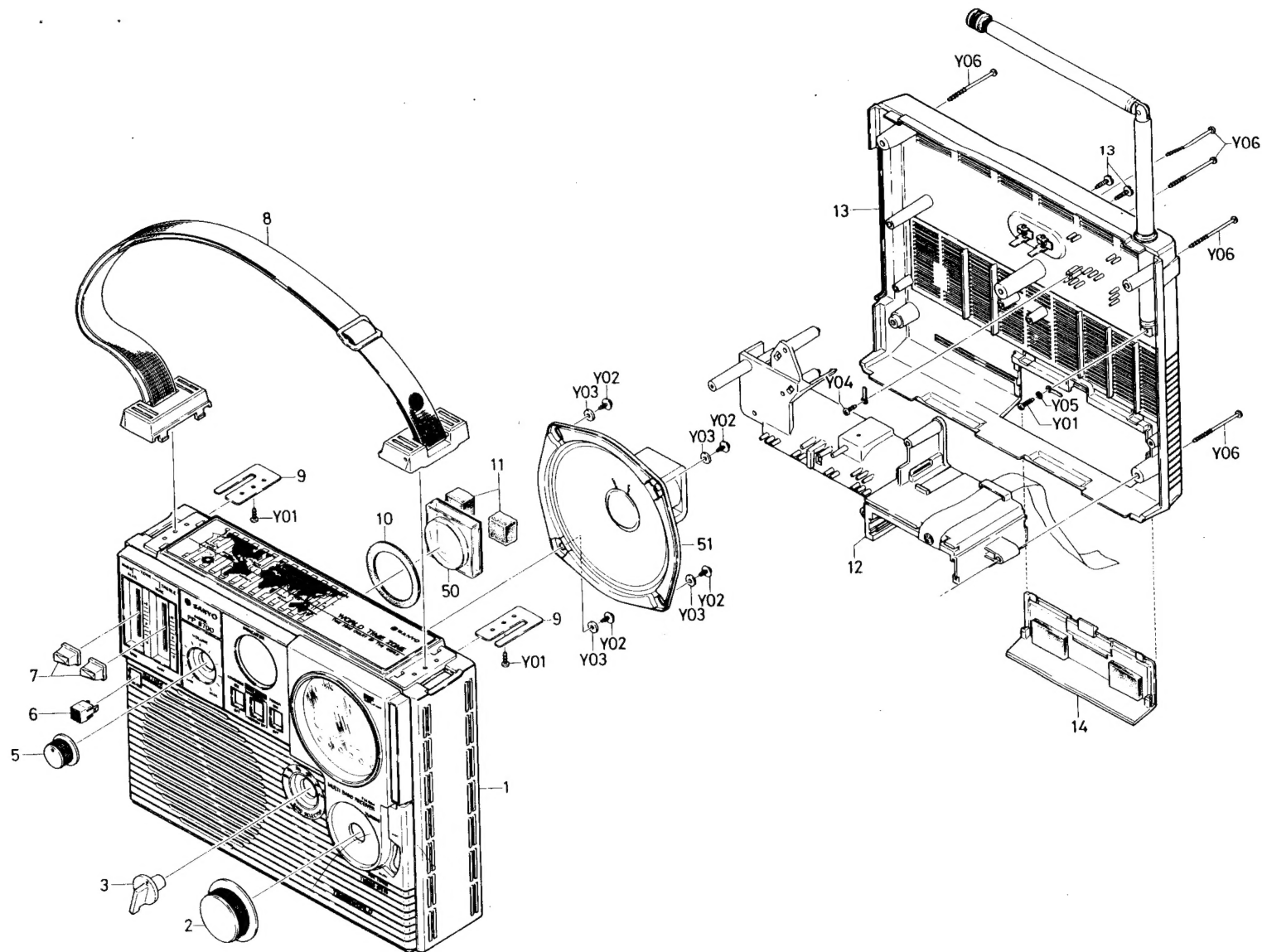


Fig. 1

## CABINET DISASSEMBLY

1. Remove 5 screws (#Y06) fastening the cabinet back (#13) to the cabinet front (#1).
2. Pull the cabinet back open and disconnect a pair of antenna jumper leads from the circuit board.
3. Pull off 5 knobs (#2, #3, #5 and #7) found on the cabinet front.
4. Remove 3 red marked screws (#Y07) fixing the circuit board.
5. Disconnect a pair of speaker jumper leads from the circuit board.
6. Take out the circuit board.

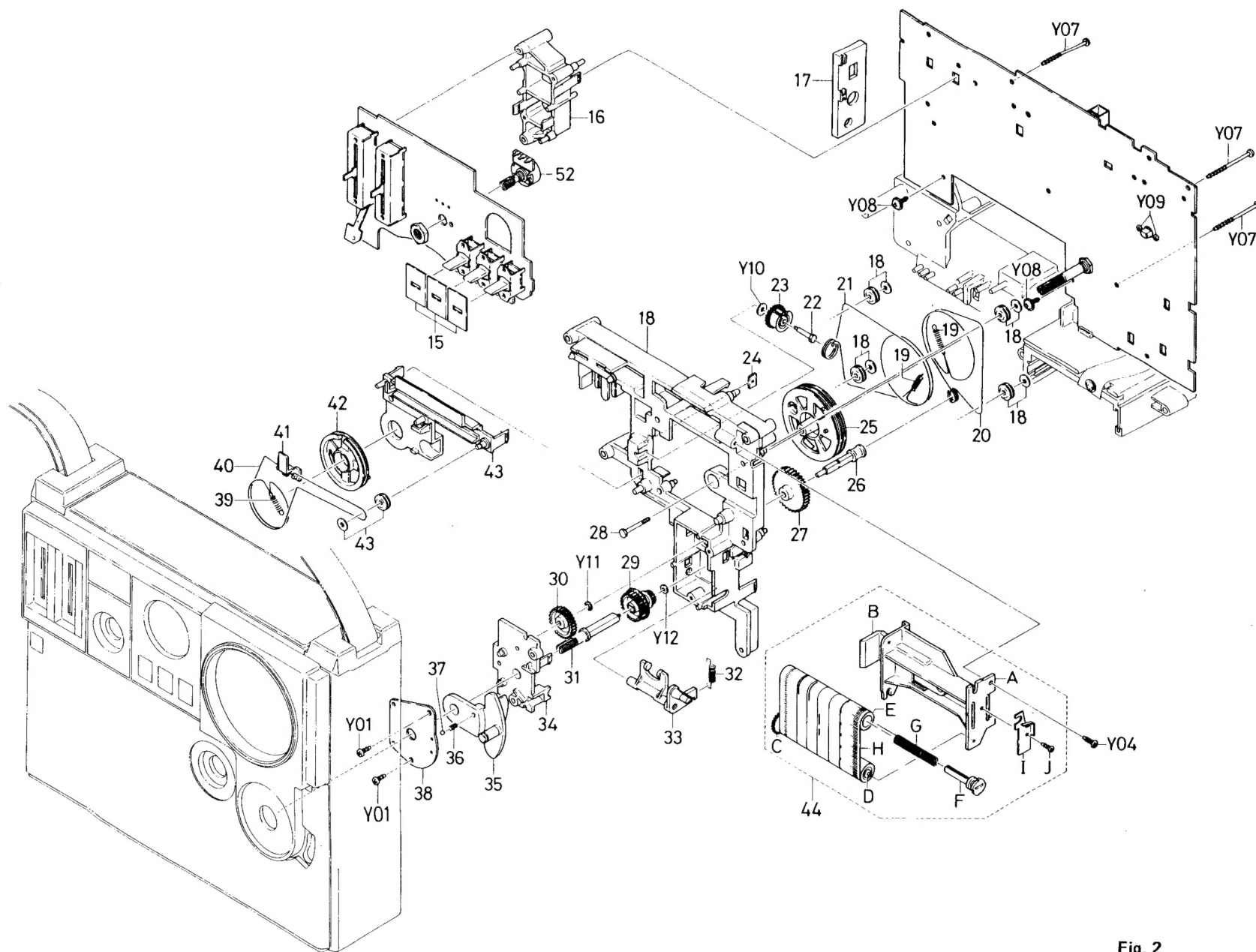
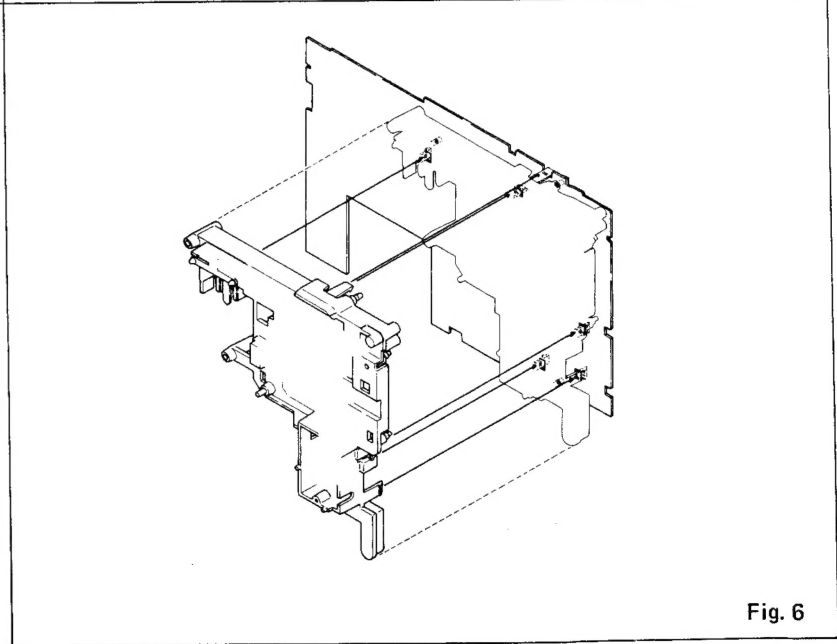
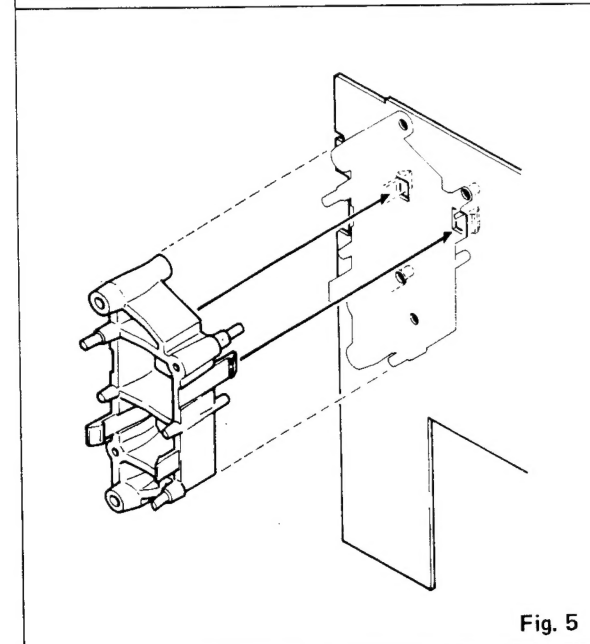
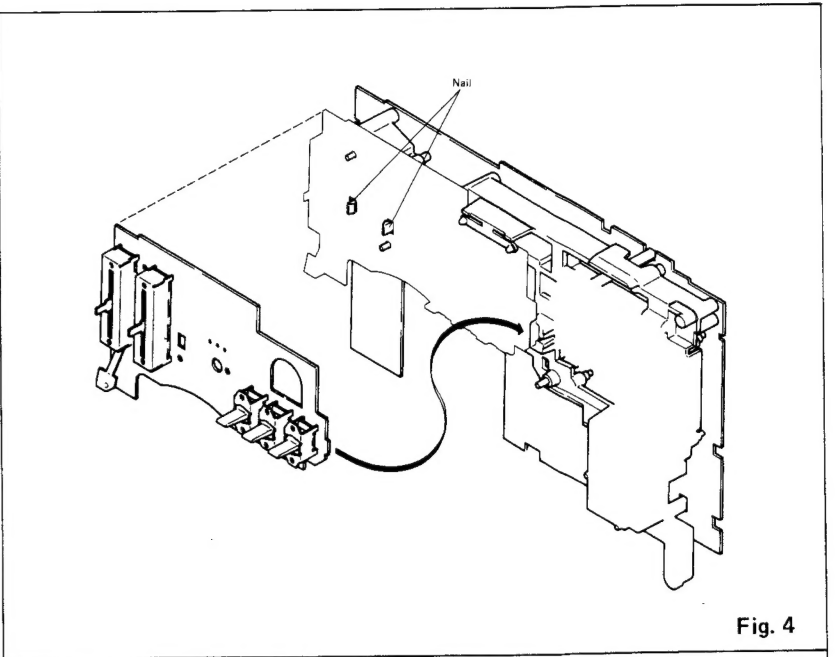
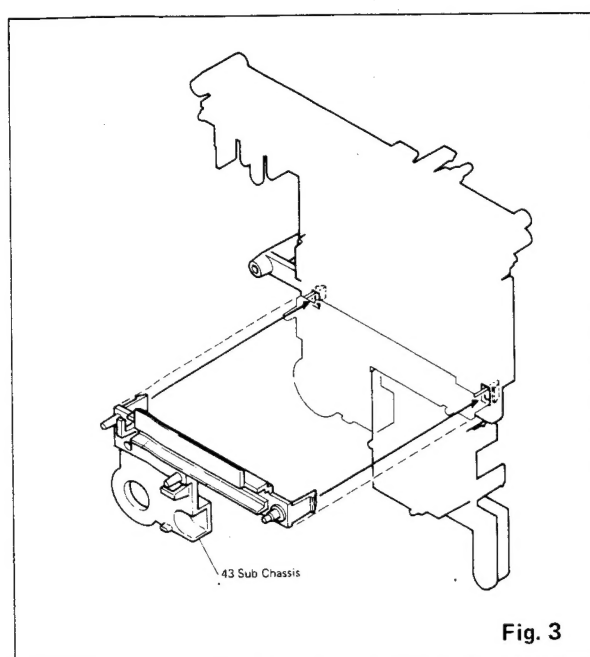


Fig. 2



1. Disengage a righthand catch  
Disassemble the subchassis (#43) with its righthand catch disengaged from the chassis assembly (#18). (Refer to Fig. 3).
2. Disassemble the subchassis (#16)  
Disassemble the small circuit board by disengaging two plastic catches of the subchassis (#16) from it. (Refer to Fig. 4).
3. Disassemble the dial mechanism (#44) with a screw (#Y04) removed from its section A.
4. Disassemble the chassis (#18) with its six catches disengaged from the circuit board, after removing a hex. head screw (#28). (Refer to Fig. 6)

# PARTS LIST

Ref. No.	Part No.	Description	Q'ty
PACKING MATERIAL			
	141-6-141T-08301	Individual Carton (RP8700SS)	1
	141-6-141T-08302	Individual Carton (RP8700AS)	1
	141-6-144T-26000	Pad, Left Side	1
	141-6-144T-28400	Pad, Right Side	1
	141-6-411T-73100	Instruction Book (RP8700SS)	1
	141-6-411T-73200	Instruction Book (RP8700AS)	1
	141-6-472T-05603	Caution Label (RP8700SS)	1
		Polyethylene Bag, 350 x 450mm, Set	1
		Polyethylene Bag, 100 x 200mm, Cord	1
		Sheet, 100 x 150mm	1

## CABINET PARTS

1	141-0-111T-255912	Cabinet Assembly	1
2	141-0-163T-09400	Rotary Knob Assembly, TUNING	1
3	141-2-163T-28200	Rotary Knob, BAND SELECTOR	1
5	141-0-163T-10100	Rotary Knob Assembly, VOLUME	1
6	141-2-161T-25600	Push Button, DIAL LIGHT	1
7	141-0-164T-03000	Slide Knob Assembly, TREBLE/ BASS	2
8	141-0-176T-06091	Shoulder Band Assembly	1
9	141-2-178T-03600	Bracket Band, Holder	2
10		Cushion, 36φ x 46φ x 1.5mm, Meter	1
11		Cushion, 10 x 15 x 10mm, Meter	2
12	141-0-331T-02891	Holder Battery Assembly	1
13	141-0-126T-160912	Back Lid Assembly (RP8700SS)	1
13	141-0-126T-160913	Back Lid Assembly (RP8700AS)	1
14	141-0-128T-03100	Battery Lid Assembly	1

## CHASSIS PARTS

15	141-2-241T-15100	Veil, Snap Switch	3
16	141-2-312T-13400	Sub Chassis	1
17	141-2-143T-66600	Marking Plate, PHONO/RADIO, EARPHONE, HEAD PHONES	1
18	141-0-311T-19991	Chassis Assembly	1
19	123-2-481R-11800	Spring Coil, Dial Rope	2
20		Dial Rope, 0.3φ x 450mm	1
21		Dial Rope, 0.3φ x 650mm	1
22	141-2-567T-01500	Pulley Shaft, Drum mtg.	1
23	141-2-538T-02700	Drum	1
24	141-2-411T-06300	Plate Nut	1
25	141-2-538T-04000	Drum, Tuning Capacitor	1
26	141-2-566T-03300	Tuning Shaft	1
27	141-2-581T-03200	Gear, 27φ	1
28	141-2-425T-00300	Hexagon Screw, 2.6 x 20mm	1
29	141-2-581T-03300	Gear, 20φ	1
30	141-2-581T-03100	Gear, 18φ	1
31	141-2-566T-03400	Tuning Shaft	1
32	141-2-851T-89000	Spring Coil	1
33	141-2-741T-80500	Lever	1
34	141-2-210T-00700	Bracket	1
35	141-0-162T-02700	Lever Knob Assembly, Tuning Speed	1
36	123-2-481R-13800	Spring Coil	1
37		Steel Ball, 1/8 inch dia.	1
38	141-2-747T-11400	Bracket, Lever	1
39	123-2-481R-10600	Spring Coil, Band Selector	1
40		Dial Rope, 0.3φ x 500mm	1
41	141-0-511T-06291	Pointer Assembly	1
42	141-2-538T-04100	Drum, Band Selector	1
43	141-0-312T-13591	Sub Chassis, Band Selector	1
44	141-0-210T-006912	Bracket Assembly, Dial Mechanism	1
A	141-2-210T-00600	Bracket	(1)
B	141-2-329T-03600	Refractor	(1)
C	141-2-581T-02900	Gear	(1)
D	123-2-210R-20100	Bracket	(1)
E	141-2-538T-03300	Drum	(1)
F	141-2-581T-02300	Gear	(1)
G	141-2-851T-86700	Spring Coil	(1)
H	141-2-146T-06102	Dial Scale	(1)
I	141-2-853T-37100	Spring Plate	(1)
J		Tapping Screw, Pan Hd., 2.3 x 4mm	(1)
		Rubber Cushion, 3.5φ x 6φ x 3.5mm, Dial Light	1

Ref. No.	Part No.	Description	Q'ty
CHASSIS PARTS			
	141-6-479T-11800	Label, Fuse, 1.25AT, P.C.B. mtg.	1
		Rubber Cushion, 6 x 6 x 9mm, Holder Battery mtg.	1
		Rubber Cushion, 7 x 7 x 1mm, P.C.B. mtg.	1

## MOUNTING

Y01		Tapping Screw, Pan Hd., 3 x 12mm	5
Y02		Tapping Screw, Pan Hd. with Washer, 3 x 8mm	4
Y03		Washer, 3 x 8 x 1mm	4
Y04		Tapping Screw, Pan Hd., 3 x 8mm	4
Y05		Spring Washer, 3mm	1
Y06		Tapping Screw, Pan Hd., 3 x 40mm	5
Y07		Tapping Screw, Pan Hd., 3 x 35mm	3
Y08		Tapping Screw, Pan Hd., 3 x 10mm	2
Y09		Screw, Pan Hd., 2.6 x 4mm	2
Y10		Washer 2.1 x 9 x 0.5mm	1
Y11		"E" ring, 3mm	1
Y12		Graphite Nylon Washer, 2.1 x 6 x 0.5mm	1
Y13		Screw, Pan Hd., with Washer, 3.x 8mm	1
Y14		Nut, 3mm	1
Y15		Washer, 3 x 8 x 0.5mm	1
Y16		External Tooth Lock Washer, 3mm	1
Y17		Tapping Screw, Pan Hd., 3 x 20mm	1

Schematic Location	Part No.	Description	Q'ty
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## SEMICONDUCTORS

Q101,301, 302,303		Transistor, 2SC930E	4
Q102,304, 305		Transistor, 2SC930D	3
Q103,104		Transistor, 2SC929D	2
Q306,701		Transistor, 2SC536G	2
IC701,701		Integrated Circuit, LA4100K	2
D101,104, 302,		Diode, DS442	3
D102		Diode, 1S553	1
D105,304		Diode, 1S188AM	2
D301		Diode, MV-11T	1
D305	4-205R-10100	Diode MA26W	1
D306,307		Diode, 1S188FM	2
D308		Diode, YZ-047	1
D701		Diode, DS132	1
D702		Diode, DS131	1

## COILS & TRANSFORMERS

L101	4-265R-12800	VHF Coil, 3-1/2	1
L103	4-265R-05000	VHF Coil, 6-1/2	1
L121	4-265R-00400	VHF Coil, 4-1/2	1
L104	4-265R-10500	VHF Coil, 4-1/2	1
L118,120	4-265R-01300	VHF Coil, 3-1/2	2
L105,106	4-252T-05000	or Choke Coil, 1μH, SW2, SW3	2
	4-253R-11100		
L107	4-252T-05700	or Choke Coil, 3.9μH, SW4	1
	4-252T-04800		
L108	4-253R-10700	or Choke Coil, 39μH, SW	1
	4-252T-05100		
L109	4-252T-06200	Choke Coil, 100μH, SW1	1
L110	4-257T-16301	Antenna Coil Assembly, MW/SW1	1
L112	4-257T-14300	Antenna Coil, SW2	1
L113	4-257T-14400	Antenna Coil, SW3	1
L114	4-257T-14500	Antenna Coil, SW4	1
L115	4-258T-08900	Oscillator Coil, MW	1
L116	4-258R-25000	Oscillator Coil, SW1	1
L117	4-258T-12400	Oscillator Coil, SW2	1
L119	4-258T-12500	Oscillator Coil, SW3	1
L122	4-258T-12600	Oscillator Coil, SW4	1
L123	4-252T-06500	Choke Coil, 10μH, SW3	1
L124,125	4-253R-11100	Choke Coil, 1μH, SW4	2
T301	4-256R-20830	IF Transformer, FM	1
T302	4-256R-15130	IF Transformer, FM	1
T303	4-256R-02330	IF Transformer, FM	1
T304	4-256T-06000	IF Transformer, AM	1

# PARTS LIST

Schematic Location	Part No.	Description	Q'ty	Schematic Location	Part No.	Description	Q'ty
COILS & TRANSFORMERS				RESISTORS			
T305	4-256T-00230	IF Transformer, AM	1	All Resistors are Carbon type, $\pm 10\%$ and 1/4W unless otherwise specified.			
T701	4-251T-47500	Power Trans. 120/200/240V (RP8700SS)	1	R122,723		10 ohm	2
T701	4-251T-47600	Power Trans. 240V (RP8700AS)	1	R115,309		15 ohm	2
MISCELLANEOUS				R120,131		33 ohm	2
CF301,302	4-256T-80400	or IF Filter	2	R110		39 ohm	1
	4-256T-80471			R121,715,717		47 ohm	3
	4-256T-80472			R106		56 ohm	1
	4-256T-80473			R727		68 ohm	1
	4-256T-80474			R109,123,304,726		100 ohm	4
	4-151T-19700	Speaker, 12 cm, 8 ohm	1	R331		150 ohm	1
	4-612R-12475	Lamp	1	R308,721,103		220 ohm	3
	4-511T-06800	Indicator, Meter	1	R301,306		220 ohm	2
123-2-471R-10400		Bead Core	1	R332		270 ohm	1
	4-244T-01200	Telescopid Rod Antenna	2	R126,307,310		330 ohm	3
	4-235T-26800	Socket, Power	1	R315,322,330		390 ohm	3
141-2-135T-32200		Back Cover, Power Socket	1	R101,118,711,303,305		470 ohm	5
141-2-381T-01800		Bracket, Fuse Holder	2	R339,716		560 ohm	2
	4-234T-03100	Fuse, 1.25A	1	R104		820 ohm	1
	4-235T-31971	Socket, Head Phone	1	R114,311,313,328,724,725,704,816,333,334		1K ohm	10
	4-235T-23100	Socket, DIN	1	R314		1.8K ohm	1
	4-235R-14000	Socket, Earphone	1	R112,335,712,702,703,324		2.2K ohm	6
141-2-322T-18900		Shield Plate, Parts Side	1	R705,707		4.7K ohm	2
141-2-322T-18100		Shield Plate Pattern Side	1	R302,336,337,323		5.6K ohm	4
141-2-853T-40700		Spring Plate, Dial Light Switch	1	R317,338,329		6.8K ohm	3
141-2-336T-04600		Terminal, Dial Light Switch	1	R327		8.2K ohm	1
123-2-474R-00200		Tip Plug	5	R130,325,709		10K ohm	3
TP1,2,3,5,6	4-237T-00100	Terminal	1	R321		12K ohm	1
TP4	123-2-472R-00400	Lug, Power Transformer mtg.	1	R102,105,111,113		15K ohm	5
	141-2-464T-08700	Fixer, Lead mtg.	2	R706		22K ohm	1
	141-2-336T-06800	Terminal Battery, (-), Spring Coil	1	R722,714,340		33K ohm	3
	141-2-336T-04904	Terminal Battery, (+)	2	R320		47K ohm	1
	141-2-336T-09400	Terminal Battery, (-), Spring Plate	1	R108,107,319		100K ohm	3
	141-2-322T-29400	Shield Plate, T305	1	R718,719		220K ohm	2
	141-2-322T-29300	Shield Plate, IC	1	R720		390K ohm	1
	4-243T-12600	Lead, P.C.B. (Main - Sub)	1	R713		1.5M ohm	1
	141-2-382T-03071	Terminal, Pilot Lamp Lead	3	CAPACITORS (CERAMIC & MYLAR)			
	141-2-322T-20900	Shield Plate, T303	1	All Capacitors are Ceramic type, 50V unless otherwise specified.			
	4-243T-76401	Power Cord Assembly (RP8700SS)	1	C335		1pF, $\pm 0.25\text{pF}$	1
	4-243T-12301	Power Cord Assembly (RP8700AS)	1	C111,119,315		3pF, $\pm 0.25\text{pF}$	3
	4-253T-09200	IF Filter, FM Antenna	1	C106		3pF, $\pm 0.25\text{pF}$	1
	4-226T-828911	P.C.B. Assembly, Main	1	C130		4pF, $\pm 0.25\text{pF}$	1
	4-226T-829911	P.C.B. Assembly, Sub	1	C151		6pF, $\pm 0.5\text{pF}$	1
CONTROLS				C316		7pF, $\pm 0.5\text{pF}$	1
VC1-4	4-224R-08400	Tuning Capacitor	1	C116		10pF, $\pm 5\%$	1
CT1-4	4-224R-01400	Trimmer, 8pF	2	C112,121,123		12pF, $\pm 5\%$	3
CT5,9	4-224R-01600	Trimmer, 16pF	2	C115,117,118		15pF, $\pm 10\%$	3
CT6,12	4-224R-11800	Trimmer, 16pF x 2	4	C101,134,142		20pF, $\pm 10\%$	3
CT7,8,10,11				C104,140		22pF, $\pm 5\%$	2
R326	4-222T-03100	Semi-fixed Resistor, 2K ohm, Meter Zero Point Adjust	1	C109		25pF, $\pm 10\%$	1
R701	4-222T-47900	Variable Resistor, 100K B, VOLUME	2	C329		30pF, $\pm 10\%$	1
R708,710	4-222T-47700	Variable Resistor, TREBLE/BASS	1	C137		35pF, $\pm 5\%$	1
S1	4-231T-52600	Slide Switch, Band Select	1	C120,122,133,136		40pF, $\pm 5\%$	4
S2,3	4-231T-52471	Slide Switch, AFC/LOUDNESS	2				
S4	4-231T-42100	Slide Switch, RADIO/PHONO	1				
S5	4-231T-52400	Slide Switch, POWER	1				
S6	4-231T-37600	Switch, 120/200/240V Voltage Selector	1				



# PARTS LIST

Schematic Location	Part No.	Description	Q'ty
CAPACITORS (CERAMIC & MYLAR)			
C124,139		56pF, $\pm 5\%$	2
C149,725, 143		100pF, $\pm 10\%$	3
C343		100pF, $\pm 10\%$	1
C338		220pF, $\pm 20\%$	1
C110		470pF, $\pm 20\%$	1
C107,108, 301,307, 319,334		0.01 $\mu$ F, +80 -20%	6
C126,304, 312,317, 337,340		0.022 $\mu$ F, +80 -20%	6
C102,103, 105,306, 313,320, 336,731, 732,733, 734		0.04 $\mu$ F, +80 -20%	11
C327,709		0.1 $\mu$ F, $\pm 20\%$ , 12V	2
C113		6pF, $\pm 0.5$ pF	1
C117		8pF, $\pm 0.5$ pF	1
All Capacitors are Mylar type, 50V unless otherwise specified.			
C138,720		470pF, $\pm 20\%$	2
C135,309, 144,726, 725,330, 331,719, 720		0.001 $\mu$ F, $\pm 20\%$	9
C328,710		0.0022 $\mu$ F, $\pm 20\%$	2
C125,132, 310		0.0047 $\mu$ F, $\pm 20\%$	3
C305		0.0056 $\mu$ F, $\pm 20\%$	1
C703		0.0068 $\mu$ F, $\pm 20\%$	1
C127,321, 322,706		0.01 $\mu$ F, $\pm 20\%$	4
C131,325, 326,308, 314,323, 704		0.022 $\mu$ F, $\pm 20\%$	7
C341,708, 701,705, 707,351		0.039 $\mu$ F, $\pm 20\%$	6
C721,727		0.1 $\mu$ F, $\pm 20\%$	2
CAPACITORS (ELECTROLYTIC & STYROL)			
C333		Electrolytic, 0.1 $\mu$ F, 10V	1
C702		Electrolytic, 0.22 $\mu$ F, 10V	1
C114,318, 714,723		Electrolytic, 1 $\mu$ F, 10V	4
C332,730		Electrolytic, 4.7 $\mu$ F, 25V	2
C311		Electrolytic, 10 $\mu$ F, 16V	1
C717,724		Electrolytic, 22 $\mu$ F, 10V	2
C722,728		Electrolytic, 47 $\mu$ F, 10V	2
C324		Electrolytic, 220 $\mu$ F, 6.3V	1
C711,715		Electrolytic, 240V, 10V	2
C712		Electrolytic, 470 $\mu$ F, 10V	1
C713		Electrolytic, 1000 $\mu$ F, 6.3V	1
C729		Electrolytic, 2200 $\mu$ F, 10V	1
C716		Electrolytic, 100 $\mu$ F, 10V	1
C128		Styrol, 270pF, $\pm 5\%$ , 50V	1
C129		Styrol, 1100pF, $\pm 5\%$ , 50V	1
C740,741		Electrolytic 2.2 $\mu$ F	1



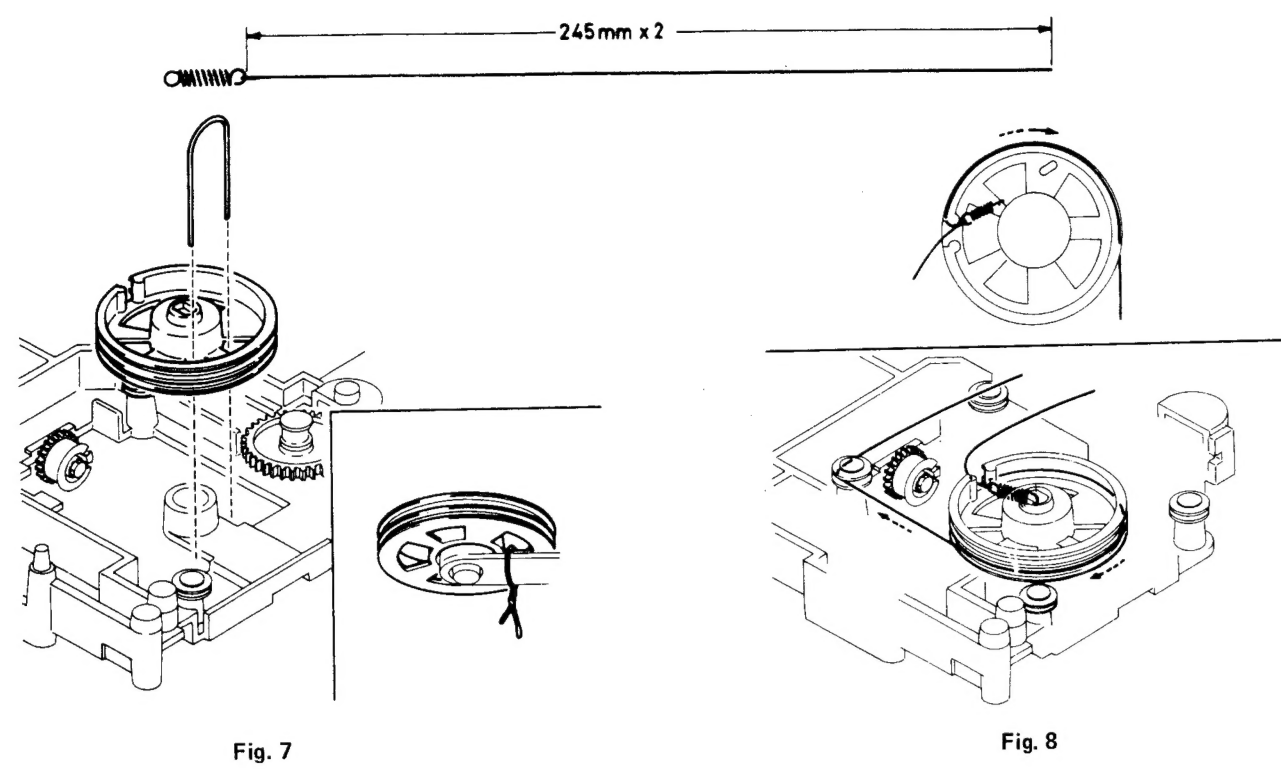


Fig. 7

Tie the drum to the chassis with a rope.

Hook the free end of a tension spring to the drum at its center and place the dial cord along a lower groove of the drum around the drum along its lower groove as shown.

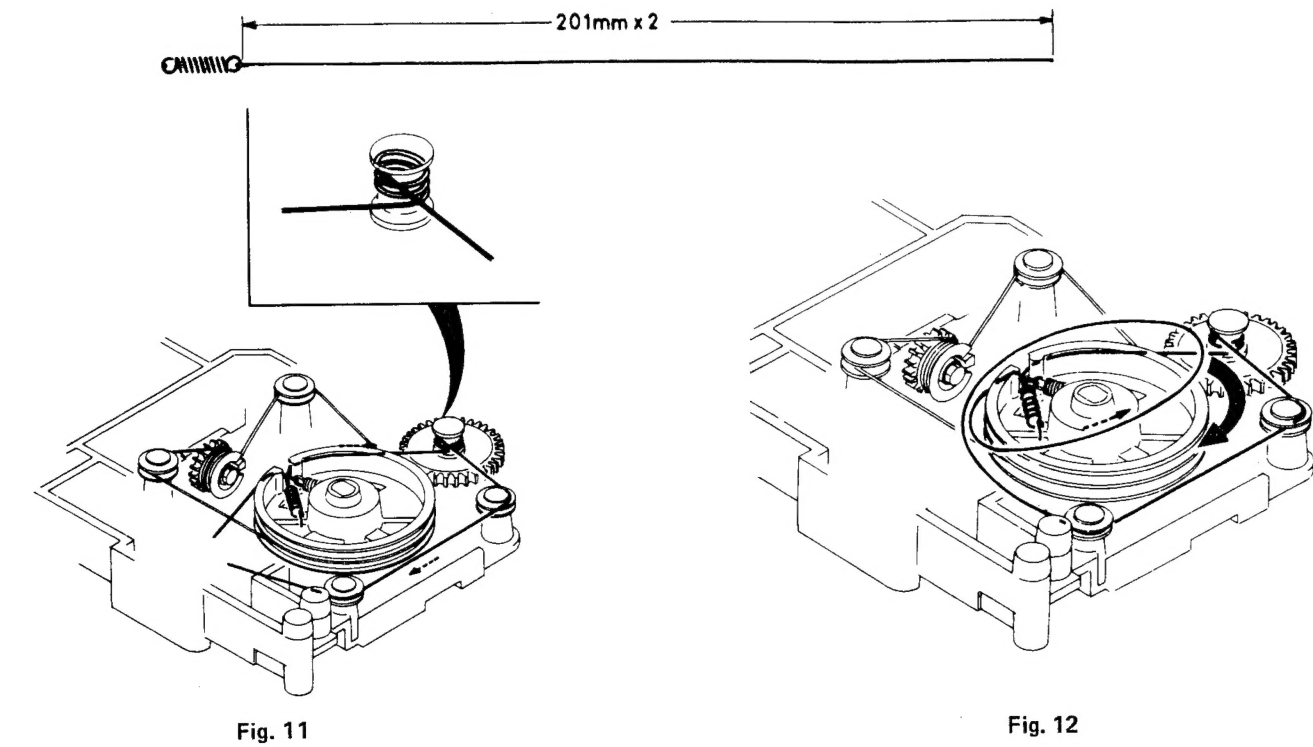


Fig. 11

Hook, the free end of another tension spring to the drum and place the dial cord around the drum along its upper groove. Then turn it around the gear by 3 turns.

Fig. 12

Pass it through 2 pulleys and turn it around the drum by 1 turn as shown. Then reform the dial cord stringing neatly.

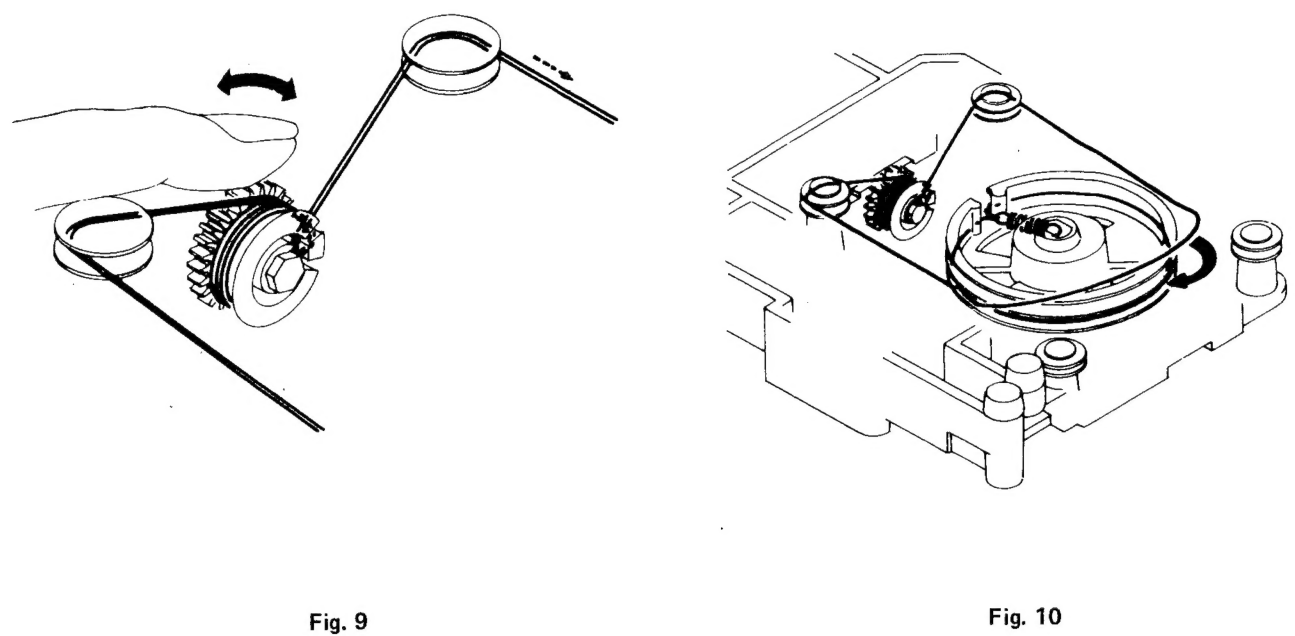


Fig. 9

Wind the cord around the geared drum 3 turns, then loop it through cut openings on the drum a turn, as shown.

Fig. 10

Wind the cord around the drum as shown.

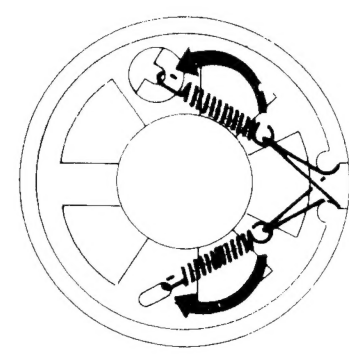


Fig. 13

Shift the hooking point of each tension spring at the respectively specified point as shown.

DRUM MOUNTING ON THE TUNING CAPACITOR SHAFT

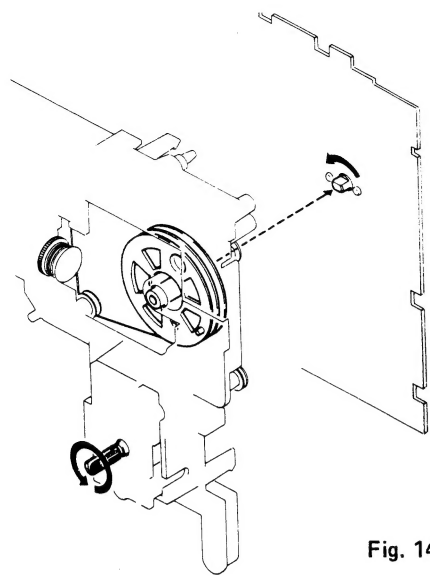


Fig. 14

Mount the drum on the tuning capacitor shaft with its shaft rotated fully counterclockwise when the tuning control shaft is placed at a fully counterclockwise position to provide a lowest frequency indication on dial scale.

HOW TO STRING DIAL CORD FOR WAVE BAND INDICATION

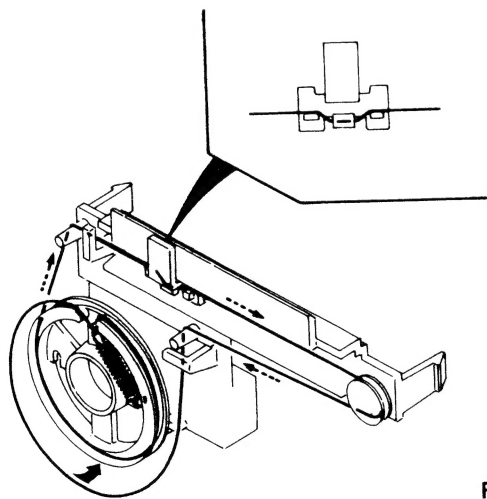
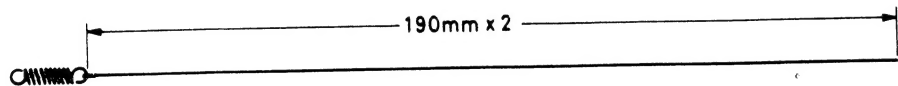


Fig. 15

DIAL SCALE CALIBRATION

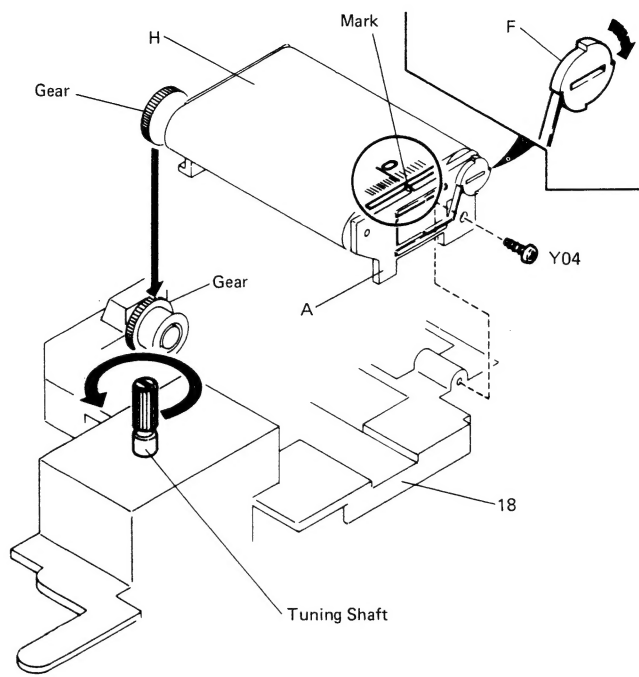


Fig. 16

Turn the tuning shaft fully counter-clockwise and adjust the zero point (on the dial scale) at the projected mark (on the bracket (A)) by rolling the dial scale. Then, mount the dial scale and the bracket on the chassis (18) with a screw (Y04) after engaging the gears of both the dial scale and the chassis with each other. Eliminate a slack in the dial scale by turning the gear (F) clockwise by 10 turns.

ZERO ADJUSTMENT ON INDICATOR

Set the band selector switch at MW. Apply a 6V DC source voltage to the unit and adjust the mini-pot (R326) to make Pointer point the letter "1" on the scale. (a center of bold yellow line.)

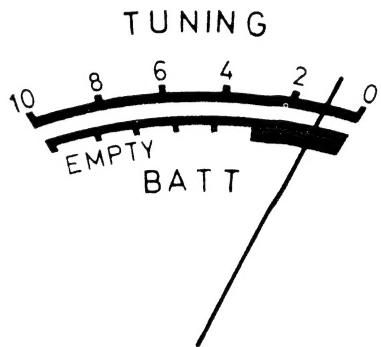
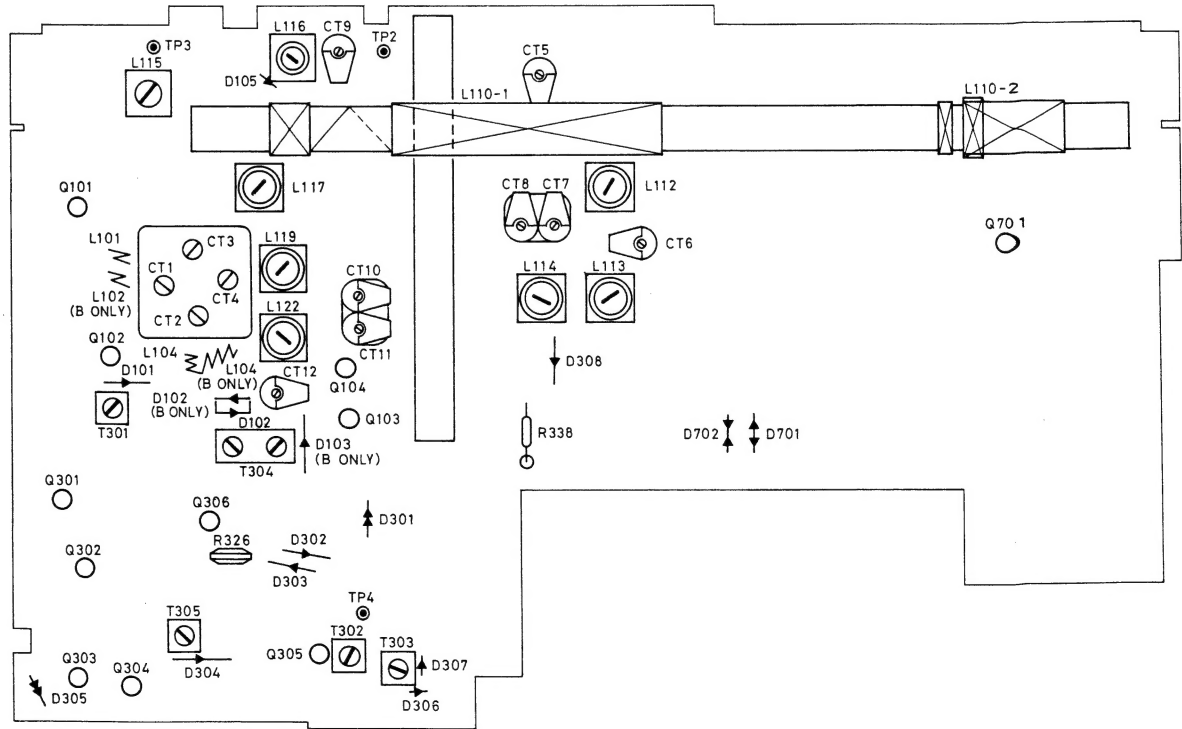
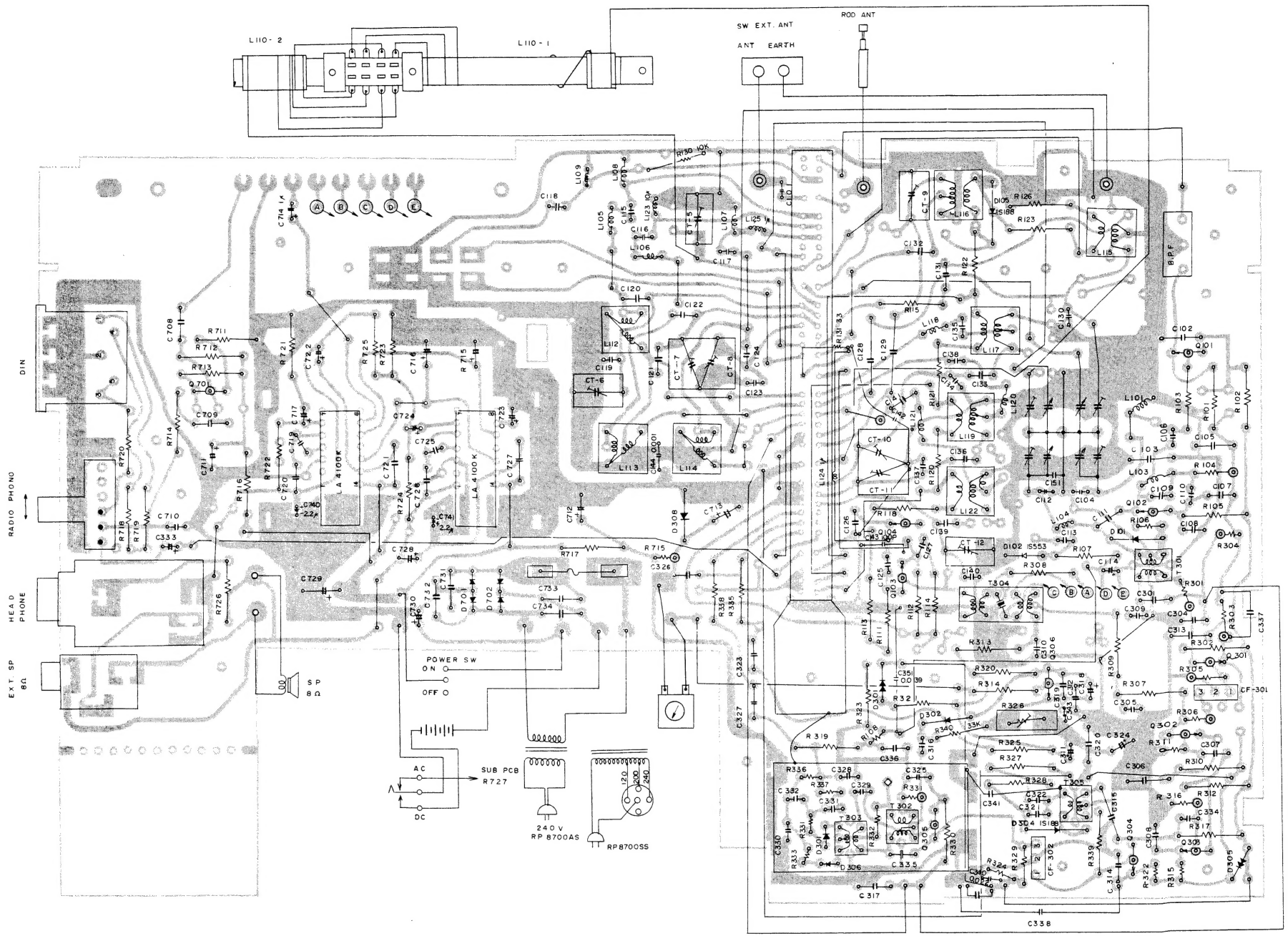
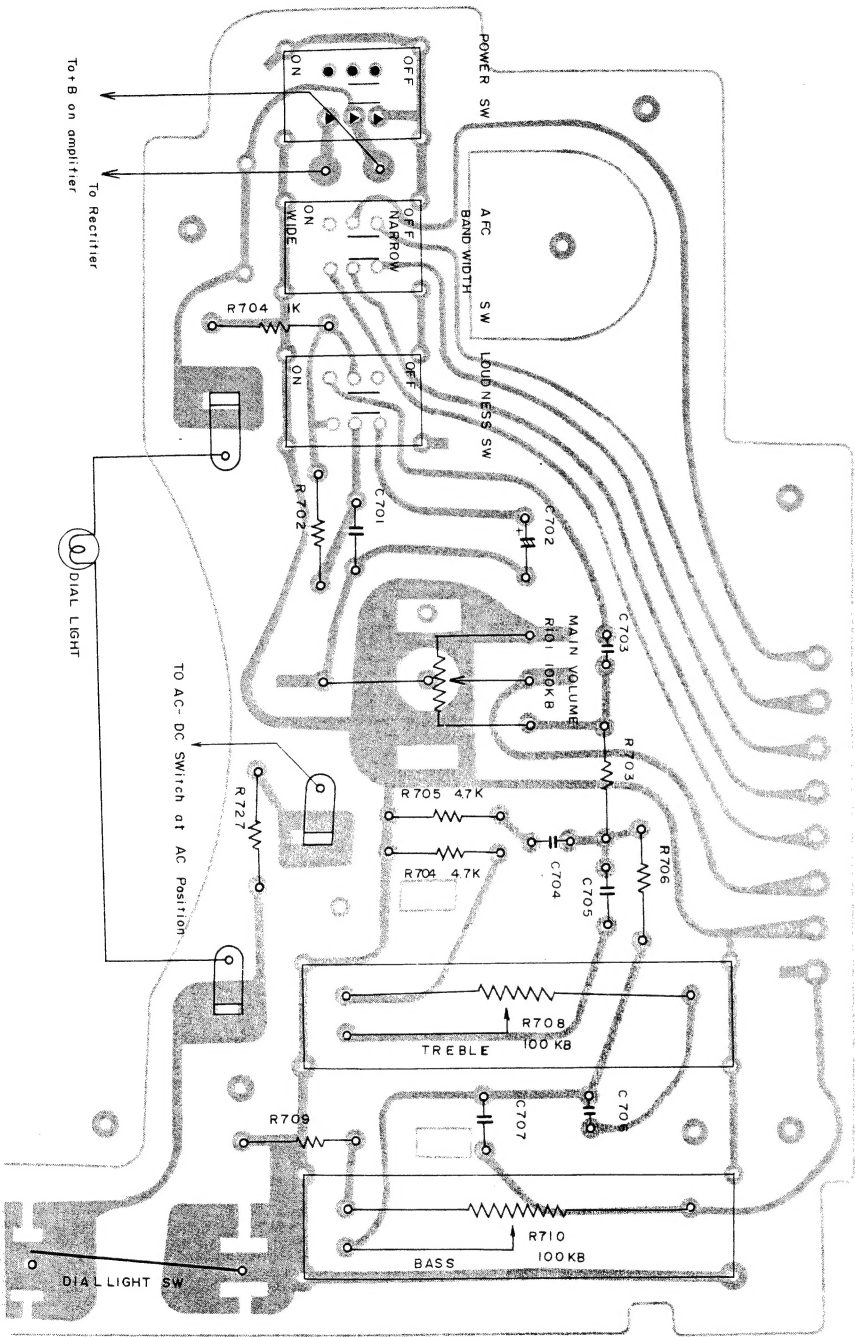


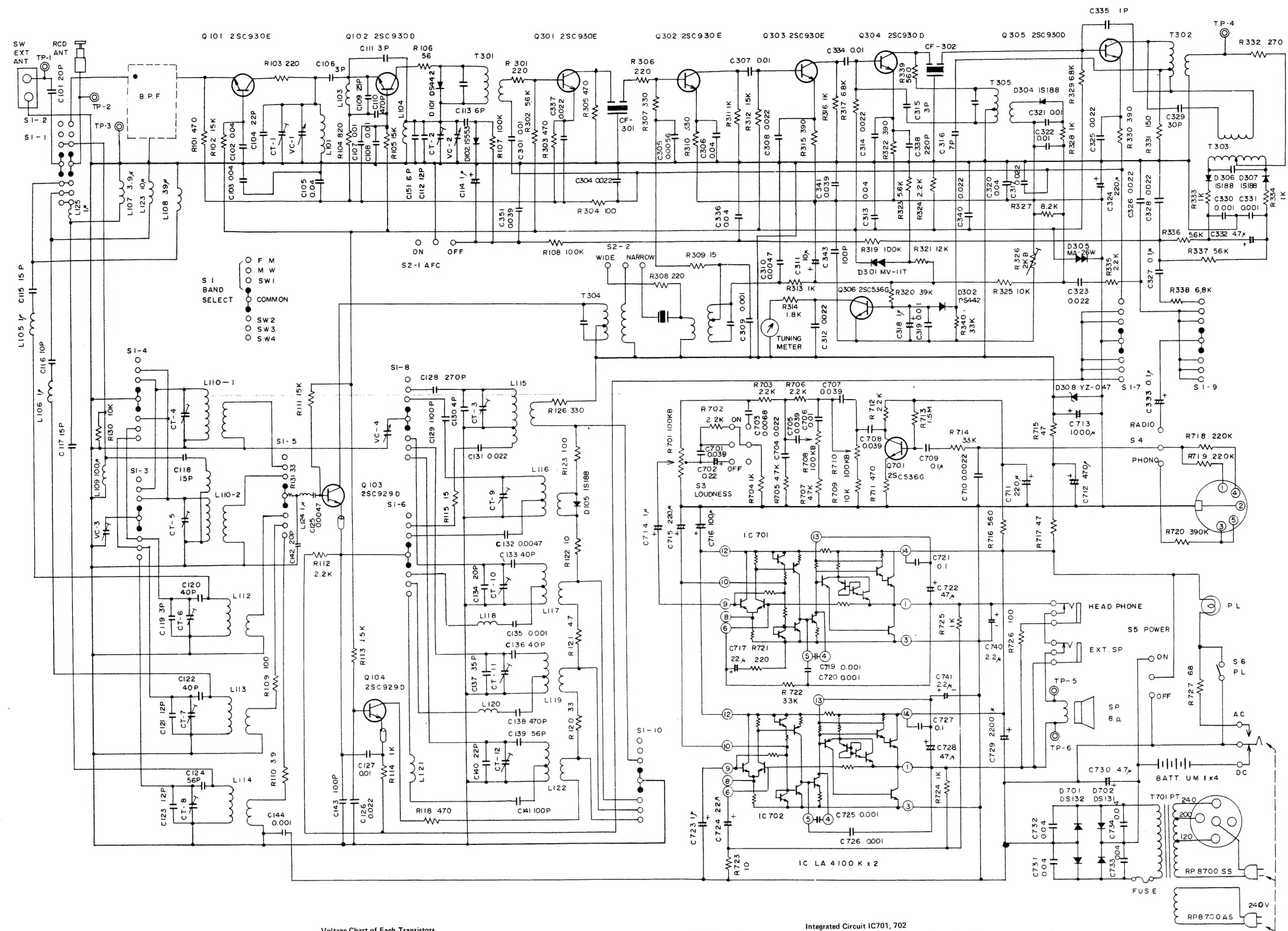
Fig. 17

PARTS LOCATION





SCHEMATIC DIAGRAM



Voltage Chart of Each Transistors

Item Band	Transistor No.		Q101	Q102	Q103	Q104	Q301	Q302	Q303	Q304	Q305	Q306	Q701
	MW	FM	4.7	4.7	4.7	4.25	4.7	3.7	3.7	4.1	4.7	4.2	3.1
Collector Voltage (V)	MW	FM	4.55	4.65	4.6	4.6	4.35	3.65	3.6	3.85	4.4	4.2	3.1
	FM	FM	0.65	0.65	1.2	1.15	0.65	10.0	1.1	1.15	0.7	0.7	0.65
Base Voltage (V)	MW	FM	1.15	1.2	1.9	1.9	1.25	1.05	1.10	1.2	1.2	0.7	0.65
	FM	FM	0.65	0.65	0.55	0.5	0.65	0.35	0.45	0.45	0.7	0.35	0.5
Emitter Voltage (V)	MW	FM	0.5	0.55	1.9	1.9	0.55	0.35	0.45	0.45	0.5	0.35	0.5
	FM	FM	0.5	0.55	1.9	1.9	0.55	0.35	0.45	0.45	0.5	0.35	0.5

NOTES: 1. All voltage are measured from common negative (—) ground.  
2. Volume control is at the minimum position.

Integrated Circuit IC701, 702

No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7
MW/FM	3.1	0	0	4.2	0.75	2.9
No. 8	No. 9	No. 10	No. 11	No. 12	No. 13	No. 14
MW/FM	2.4	2.5	3.0	0	5.8	6.0

NOTES: 1. All voltage are measured from common negative (—) ground.  
2. Volume control is at the minimum position.

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